



until the bitter end

game design & art by
Matt White

Rules Version 1.3

Game Components	3
Infantry Counter Description	4
Two Player Game Rules	4
1.0 Two Player Game Setup	4
2.0 Two Player Game Turn Sequence.	4
3.0 Infantry Counter Activation	5
4.0 Run Action	5
5.0 Advance Action	6
6.0 Fire Action	6
7.0 Charge Action & Close Combat	8
8.0 Snap Fire Action	8
9.0 Heads Down Action	9
10.0 Clear Jam Action	9
11.0 Medical Aid Action	9
12.0 Wounded Phase	9
13.0 Bravery Points	10
14.0 Special Rules	11
15.0 Infantry Squad Creation	11
Solitaire Game Rules	12
16.0 Solitaire Game Setup	12
17.0 Solitaire Game Turn Sequence.	13
17.0 Allied Infantry Counter Activation	13
18.0 Run Action	13
19.0 Solitaire Advance Action	14
20.0 Solitaire Fire Action	15
21.0 Solitaire Charge Action & Close Combat	16
22.0 Solitaire Heads Down Action	17
23.0 Solitaire Clear Jam Action	17
24.0 Medical Aid Action	17
25.0 AI German Activation	17
26.0 Wounded Phase	18
Resources	18

Welcome to "Until the Bitter End". This game pits the Airborne from the Allied forces (referred to as the US or Allied Airborne) against their German enemies in close quarter action, where the fighting is brutal and decisive. This game is for two-players and Solitaire.

To play the game you will need to print out and mount the various game counters and tokens plus the map. We recommend to print out the rules especially the Squad Sheet.

The rules are split down into several sections:

Game Components - a description of the all components of the game and what each one is used for.

Two Player Game Setup - a step by step for setting up a two player game.

Two Player Game - a description of all the rules for playing the two player game, with several sections each covering the Turn Sequence, Movement, Combat and any special rules.

Squad Sheet - full rules that describe the process of creating the two squads in the game (one squad being the American the other being the German).

Single Player Game - full rules for the Solitaire game and all the Solitaire specific areas.



Gameplay Tokens

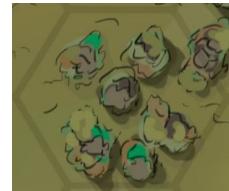


Turn Track



German & Allied Pull Chits

The game features several maps with the following types of hex. Due to the nature of the artwork no two hexes have the same identical artwork.



Tree Hex Examples



Open Ground Hex Example

Hedge Hex Example

Game Components

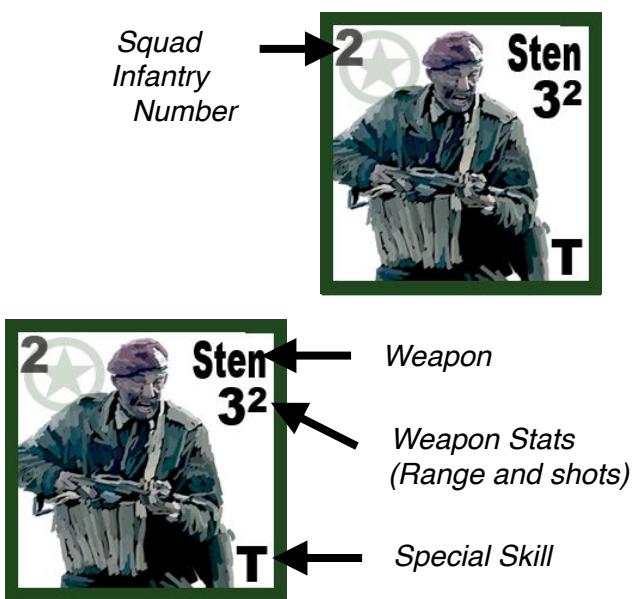


Examples of British Airborne and German Infantry Counters

For full videos describing the game and specific rules with examples please head over to the Youtube Channel:

<https://www.youtube.com/channel/UCjV24vVcvBwmvJUEz0zXE5g>

Infantry Counter Description



Two Player Game Rules

1.0 Two Player Game Setup

Follow this process for setting up your two player game, in order:

1. Choose a Scenario (please refer to Scenario Descriptions PDF - for your first game, or a quick introduction game for any new player we recommend playing the 2 Player Introduction Scenario).
2. Place all the Pull Chits into a opaque cup (I like to use a mug!!) as per the Scenario description.
3. Randomly create the two Infantry Squads (please refer to the Infantry Squad Creation section - section 15.0) referring to any special rules in the Scenario Description.
4. Place the Infantry Counters on the map as per the special rules in the Scenario Description.
5. Place all the Game Tokens, face up, within easy reach.
6. On the Turn Sequence put the Game Turn Counter on Turn 1.



2.0 Two Player Game Turn Sequence.

The game is played in a number of Turns. In each Turn the two players take turns to randomly pick a Pull Chit from the mug (without looking!!) and activate their Infantry. The Game Turn ends when all the Pull Chits have been removed from the cup.

1. Move the Game Turn Counter on to Turn 1 (and for every subsequent Turn move the Game Turn Counter along 1 space)
2. Randomly take one Pull Chit from the cup and the player who the Chit belongs to can activate one Infantry Counter. (Full rules are described in the Infantry Counter Activation - section 3.0).
3. Once all the Pull Chits have been taken from the cup that turn is over.
4. Remove all Snap Fire and Heads Down Tokens from play.
5. Wounded Phase - Roll for all Infantry Counters that have a Wounded Token (refer to the Wounded Phase - Section 12.0).
6. Place all the Pull Chits back into the cup - with one Pull Chit going into the cup for every one surviving Infantry Counter.
7. Check the Scenario Victory Conditions. If either side has achieved the Victory Conditions the game is over.
8. If the Game Turn Counter is on Last Turn then the game is over.



2.1 The player must only take ONE Pull Chit from the cup at a time. You take a Pull Chit, the player then activates one of their Infantry Counters, any combat or gameplay is resolved and only when they declare they have finished with that Infantry Counter is another Pull Chit taken from the cup.

2.2 Pull Chits must be removed from the cup without looking what the Pull Chit is. Don't peek!!

2.3 Special Scenario rules override any of the rules above in the Two Player Sequence or Notes and are detailed in the Scenario Description.

3.0 Infantry Counter Activation

As described in the Two Player Game Turn Sequence (2.0) players take turns, blindly taking one Pull Chit from the cup. The player whose this Pull Chit this force belongs to can now activate one Infantry Counter.

In activating the Infantry Counter the player can choose one from several Actions:

- Run
- Advance
- Fire
- Charge
- Snap Fire
- Heads Down
- Clear Jam
- Medical Aid

3.1 When activating an Infantry Counter place the Pull Chit and after performing any Actions place the Pull Chit on top (or underneath) of the Infantry Counter.

3.2 An Infantry Counter can ONLY be activated ONCE per game turn. You cannot give an Infantry Counter more than one Action in a Turn, nor can you give one an Action then pull another Pull Chit for your force and give the same Infantry Counter a new additional Action.

3.3 Declaring an Action

When the player has chosen which Action they want the Infantry Counter to perform they must tell the opposing player which Infantry Counter they are activating and what the Action will be BEFORE they start using that counter. E.g. "I am activating this counter (pointing at the counter) with a Fire Action".



4.0 Run Action

This represents the Infantry Counter running at full speed across the terrain. The standard Run for a Infantry Counter is 4 Movement Points.

4.1 Moment Point Cost

This is measured as a cost to enter the next hex. In this game there are three type of hex:

Clear - this is the most common type of hex and represents general forest undergrowth. This type of Hex costs 1 Movement Point for an Infantry Counter to enter.

Woods - the second most type of hex represents trees, bushes, shrubs etc that offer a substantial amount of cover in all directions. This type of Hex costs 2 Movement Points for an Infantry Counter to enter.

Hedge - this type of hex represents foliage or natural hedging that offers cover but ONLY along one or more sides of the hex (for full rules see the Line of Sight - Section 6.2 and Cover - Section 6.5) This type of Hex costs 1 movement Point to enter unless the Infantry Counter is entering or leaving that hex alongside the edge where foliage exists and then it costs two Movement Points.

In Summary:

Clear Hex	1 Movement Point
Woods Hex	2 Movement Points
Hedge Hex	1 Movement Point or 2 Movement Points if entering alongside foliage edge

4.2 An Infantry Counter does not have to use all its Movement Points - it can use as few as the player wants.

4.3 STACKING

An Infantry Counter cannot end its last Movement Point(s) to enter a hex containing a Friendly Infantry Counter. A hex can only contain one Infantry Counter UNLESS there is close combat as a result of a CHARGE (See CHARGE Activation rule 7.0).

4.4 An Infantry Counter can pass through a friendly Infantry Counter providing it has enough Movement Points to enter the next hex.

4.5 An Infantry Counter CANNOT pass through a hex containing an Enemy Infantry Counter.

4.6 An infantry Counter can end its movement in a hex containing an Enemy Infantry Counter providing it has been issued with a CHARGE Activation Counter (see Charge Activation rules - Section 7.0). This is the only occasion Infantry Counters can stack.

4.7 During play the Player who has activated the Infantry Counter and given that counter a RUN Activation must declare every move to the opposing player BEFORE moving their Infantry Counter. This is to allow the opposing player time, and in good gaming spirit, to use any of their Infantry Counters that they have issued with a SNAP FIRE Counter. Snap Fire is an Activation that allows that Infantry Counter the option to fire at any opposing Infantry Counter that is within its line of sight and is moving to a new hex. (For full rules of Snap Fire see the Snap Fire rules - Section 8.0).

5.0 Advance Action

The Advance Action is where your Infantry Counter fires from the hip whilst advancing. The movement points is less than normal and the accuracy of the firing is less but does give the player a tactical choice of moving and firing.

5.1 There is a movement point restriction of a 2 point reduction. This means for most Infantry Counters their movement point limit is now 2 points (which will always be enough to move them into the adjacent hex).

5.2 There is also a Firing reduction of -1. Firing is covered in the Fire rules - Section 6.0.

5.3 As with regular Run Action the player doesn't have to move the Infantry Counter and neither does it have to fire.

6.0 Fire Action

This Action allows the activated Infantry Counter an aimed shot (or series of shots depending on the weapon that Infantry Counter is armed with) at an enemy Infantry Counter it can see.

To carry out this Action follow these steps:

1. The player must declare which Infantry Counter is firing and the enemy target.
2. Check the distance between the Infantry Counter and the target and cross referencing that to the firing weapons range.
3. If in range the player must check that the Infantry Counter can see, using the Line of Sight rules, the intended target.
4. If the Infantry Counter has Line of Sight to the target it must roll a "To Hit" dice.

5. Determine any modifiers to the "To Hit" dice and roll the number of dice as indicated by the firing weapon.
6. Check if as a result of the "To Hit" dice the Infantry Counter that fired has resulted in a "Jammed Weapon".
7. If the target has been Hit roll the "To Wound" dice.
8. If the target has been wounded then that target is removed from the game.
9. If the target has been hit but no wounded place a Wounded Counter on the target.

For a video description of Firing Rules there is a Youtube video <https://www.youtube.com/watch?v=dGawZ4nJFWs>

6.1 Range

The first aspect of firing to check is the range from the Infantry Counter to the intended target. To calculate this add the number of hexes between the Infantry Counter and the target (including the hex the target is in).

On the Infantry Counter in the top right corner there is the name of the weapon that Infantry Counter is armed with and the first number beneath it is the range of that weapon.

If the range between the Infantry Counter and the target is the same or less than the Weapon Range then the target is in range and can be hit. If the range is greater then the target cannot be hit.

6.2 Line of Sight

To ensure that the activated Infantry Counter can see the intended target a Line of Sight check must be made. This involves drawing an imaginary straight line from the centre of the firing Infantry Counter to the the centre of the target Infantry Counter.

The Infantry Counter has Line of Sight proving:

The Line of Sight does not intersect a tree hex. Any tree hex between the Infantry Counter and the target blocks Line of Sight.

There is no hedge hex where the Line of Sight intersects the hedge edge, along the middle, and where the intended target is not in that hedge hex. (Basically a hedge blocks line of sight unless the target is in that hex target).

6.3 To Hit Dice

If the target is in range and there is a clear Line of Sight between the activated Infantry Counter and the intended target then the activating player must roll a "To Hit" dice.

Firstly establish the number of dice to roll. For rifle weapons this is normally 1, for submachine guns this is normally 2 and support weapons 3 or even more.

On the Infantry Counter in the top right of the counter there is the name of the weapon that Infantry Counter is armed with and next to the range, depending on the weapon, there is a secondary, smaller, number for a submachine gun, machine pistol or support weapon. That number represents the number of dice used. If there is no secondary number then the number of dice rolled is once dice.

6.4 To Hit Dice Modifiers

Once you have the number of dice, the next steps are to see if there are any modifiers to the Hit Dice.

The Modifiers are:

Target has a Heads Down Counter - 1

Target is in cover -1

Firer has Advance Counter -1

Firer has Wounded Counter-1

Firer has Snap Fire Counter -1

Target is in adjacent hex +1

6.5 Cover

If the target Infantry Counter is in a Woods hex then they receive a cover bonus by the Firer receiving a -1 penalty. The same applies if the target Infantry Counter is in a Hedge hex where the hedge graphic is on the edge of the hex on the Line of Fire from the attacking Infantry Counter.

Cumulative penalties

In the game the penalties stack so if a target is in woods and the firing Infantry Counter has an Advance Counter then the penalty would be a -2 (-1 for the cover plus the -1 for the Advance Counter).

6.6 Roll to Hit

Once the player has worked out the penalties (if any) and the number of dice rolled then the player must roll the dice needing a 3 or more on a six sided dice to hit. Before rolling the dice apply any penalties. So for example if the target is in cover the firing Infantry Counter would require a 4 or more (normally needs a 3 to hit by with he minus 1 penalty the counter now needs a 3 to hit).

Roll the number of dice for the firing Infantry Counter's weapon apply any of the Modifiers and calculate the number of hits.

Weapons that have more than 1 firing dice can hit the target several times - for example an Infantry Counter with a submachine gun fires 2 dice against a target in open ground and no To Hit modifiers rolls a 5 and a 6 - both these two dice are hits and the target receives 2 hits.

Roll of 6 and the Roll of 1 Rule

A 6 is always a hit, regardless of modifiers or circumstances. Conversely a roll of 1 is always a miss. This represents the incredible good fortune or bad luck of combat.

If the target has been hit place a Wounded counter on the target.

6.7 Check to see if weapons is Jammed

Any dice that the firing Infantry Counter rolls that results in an unmodified roll of a 1 then their weapon is Jammed and has no effect. Place a Jammed counter on that Infantry Counter. Infantry Counters that have a Jammed counter cannot fire, either with a Fire, Snap Shot or Advance Action. Infantry Counters that take part in close combat, that have a Jammed Counter, receive a penalty but can still take part in Close Combat.

6.8 To Wound

Once you have established how many hits the target has received, next is the To Wound dice roll. For every dice that hit the target roll that dice again and a roll of 4 or more on a six sided dice removes that target Infantry Counter from play (remove it from the board).

That Infantry Counter is considered dead or otherwise removed. Remember when filling up the cup with Pull Chits to reduce the pool of Pull Chits by one for every member of your squad that is removed from play.

If all the dice rolls are unsuccessful the target Infantry Counter still retains the Wounded counter - these represent varying severity of flesh wounds and are used later in the game turn.

7.0 Charge Action & Close Combat

The Charge Action enables the player to move one of their Infantry Counters and attack an enemy target in close combat.

First step is for the attacking player to announce they are charging, and declaring the target of the Charge Action.

Second step is movement. The Attacking Infantry Counter receives a +1 to their movement allowance. So for example, as most counters have 4 movement points with a Charge Action the counter now has 5 movement points.

Remember to declare each moment before commencing to allow the opposing player time to declare any Snap Fire Actions as a result of that movement (see Snap Fire Action Rules 8.0).

If the final moment point(s) is spent to enter the same hex as the target. This is the only time that a hex can contain two or more Infantry Counters.

The third step is determine the outcome of the Close Combat. Close Combat in this game is simple and brutal, emulating the vicious and brutal nature of armed men fighting in close quarters.

7.1 Close Combat Dice Roll

Each player rolls one dice per weapon attack dice. For Infantry Counters armed with rifles this would be one dice whereas Infantry Counters armed with submachine guns or machine pistols would roll 2 or more dice. The exception to this is support weapons such as the MG42 or Bren Gun - those roll 1 dice as per a rifle.

7.2 Close Combat Modifiers

In addition to the number of dice rolled there are some modifiers:

Charging Infantry Counter +1

Any Infantry Counter with a Wounded Counter -1

Any Infantry Counter with a Jammed Counter -1

Defending Infantry Counter is in cover +1

Defending Infantry has a Heads Down Counter +1

All modifiers are cumulative so an Infantry Counter with a Wounded and Jammed Counter would receive a -2 to their Close Combat Dice Roll.

7.3 Final Calculations & Outcome

Take the highest number from the dice rolls from either Infantry Counter and apply any of the modifiers. The Infantry Counter with the highest number wins and the losing Infantry Counter is removed from play. If both results are the same both Infantry Counters are removed from play!

Remember to reduce the number of Pull Chits as a result of any Infantry Counters being removed from play the next time you put them in the cup.

8.0 Snap Fire Action

This Action allows any Infantry Counter to fire on any enemy Infantry Counter as it spends any Movement Points (as part of any Run, Advance or Charge Actions). The player simply places a Snap Fire Counter to one of their Infantry Counters. This allows that Infantry Counter the ability to fire on any enemy Infantry Counter later in that Turn where the counter can see a moving enemy Infantry Counter.

As the opposing player is spending movement points by declaring their movement then the player can declare they wish to utilise any Infantry Counter that has a Snap Fire Counter. Once the moving player has declared their movement intention, and before they move their Infantry Counter then the opposing player can fire at that Infantry Counter before it moves.

This represents soldiers taking quick shots at fleeting movements of the enemy soldiers.

Once the player has declared that the Infantry Counter that has a Snap Fire Counter is firing on a moving enemy Infantry Counter then the player must check they are within range and line of sight applies just the same as the Fire Action.

There is also a -1 penalty to the firing Infantry Counter as a result of such firing. Proceed with the range, line of sight, to hit dice roll and Wounded as normal. If the target Infantry Counter is hit it must stop immediately and that Infantry Counter's Action is over. It must remain in the Hex it was leaving when hit.

An Infantry Unit can only Snap Fire once (even if it is armed with a machine gun that has numerous firing dice). When the Snap Fire Action has been used remove the counter.



9.0 Heads Down Action

This Action represents the soldier diving for covering and making the best they can in the natural cover they have.

The Player simply declares this Infantry Counter and going Heads Down and places a Heads Down Counter on top of the chosen Infantry Counter. As it does not require any movement cost the opposing player cannot Snap Fire against it.



10.0 Clear Jam Action

This Action enables a Infantry Counter to try and attempt to clear a Jammed weapon and remove any Jammed Counter on that Infantry Counter.

To attempt this roll a D6 and any roll of a 4 or more is successful. There are no modifiers. If successful the Jammed counter is removed.

11.0 Medical Aid Action

This is a special Action that works very similar to the Charge! Action but instead of moving and entering an enemy Target to engage in close combat the player can move a friendly Infantry Counter to an Infantry Counter that has a Wounded Counter attached to it and attempt some simple field medical assistance to get the Wounded Infantry Counter back into the fight!

To attempt this roll a D6 and any roll of a 4 or more is successful. There are no modifiers. If successful the Wounded counter is removed.

12.0 Wounded Phase

At the end of the Turn both players must roll for any Infantry Counters that have a Wounded Counter. Each player takes it in turn to roll a single six sided dice for each Wounded Counter. The results are:

- 1 The Infantry Counter has suffered from its wounds and removed from play.
- 2-4 The Infantry Counter remains Wounded and retains the Wounded Counter.
- 5-6 The Infantry Counter has regained full combat effectiveness and the Wounded Counter is removed.

12.1 Multiple Wounded Counter Roll

The player must roll for every Wounded Counter so if an Infantry Counter has two Wounded Counters then the player would need to roll two dice in the Wounded phase.



13.0 Bravery Points

Bravery Points are used by the player to force the opposing player to re-roll a dice against their activated Infantry Counter.

For a full video description of how Bravery Points are used in the game, with examples use the following Youtube link:

<https://www.youtube.com/watch?v=SkWSx3lw5xM&t=3s>

13.1 Bravery Point Pool

The number of Bravery Points that each player has is detailed in the Scenario Description. These make up the Bravery Point Pool for that player. During the game Bravery Points are used and returned to the Bravery Point pool of lost from the pool based on the success of those Bravery Points.

13.2 Declaring a Bravery Point

Once a player has activated an Infantry Counter and given that counter an Action the player can declare they are using a Bravery Point in that Action.

The Bravery Point must be declared BEFORE the Action starts. The player cannot start an Action and then declare they are using a Bravery Point. The player MUST declare they are using a Bravery Point (and how many points) after they declare what Action they are giving the Infantry Counter.

13.3 Using the Bravery Point

Whilst the Infantry Counter is performing the giving Action, if as a result of that Action the opposing player rolls a dice AGAINST the activated Infantry Counter the player can force the opposing player to re-roll one dice for every Bravery Point that they wish to use.

For example the player who is performing a Move Action has declared that they are wanting to use a Bravery Point for that Action. In performing that Move Action the opposing player performs a Snap Fire Action against the Moving counter. If that Snap Fire hits the Moving counter then the player can use that Bravery Point to re-roll the hitting dice if they wish.

13.4 Bravery Point Success

If as a result of using the Bravery Point the re-roll is successful to the counter performing the Action then the Bravery Point is returned to the Bravery Point pool (and so therefore can be used again in subsequent Actions).

If however the Bravery Point use was unsuccessful then the Bravery Point is lost for the remainder of the game.

For example, the player has chosen to use one Bravery Point as part of the Move Action that they want one of the Infantry Counters to perform. In moving that Infantry Counter the opposing player performs a Snap Fire Action against the moving Infantry Counter. In performing that Snap Fire Action the opposing player hits the moving Infantry Counter. The player then uses the Bravery Point to re-roll that Snap Fire dice roll that hit the moving Infantry Counter. In the re-roll the Snap Fire rolls low and fails to hit the moving Infantry Counter. The Bravery Point is returned to the Bravery Point pool and can be used in subsequent Actions.

13.5 Multiple Bravery Points

The player can choose more than one Bravery Point if they wish to no limit. The player MUST declare how many Bravery Points that they are using in the Action.

By using multiple Bravery Points the player can make the opposing player re-roll a re-roll if they wish. Remember any re-roll that fails from the player who uses the Bravery Point point of view must be lost from the game, even if a subsequent Bravery Point is successful.



14.0 Special Rules

14.1 MG42

The MG42 is a special case Infantry Counter and has a few specific rules associated.

This counter can have a “Loader” by placing a friendly Infantry Counter next it and placing the Loader Counter on top of the friendly Infantry Counter. This can be done at any time, and the declaring the friendly Infantry Counter as a Loader requires no Action.

The benefit to the player to have a Loader next to the MG42 is that the MG42 when firing can re-roll two of the Firing To Hit dice if the player wants. Note that this is only the Firing To Hit dice NOT the To Wound dice rolls.



15.0 Infantry Squad Creation

This section gives the full rules to creating the two squads in the game and how to determine their special rules.

Please print out the Infantry Squad Sheet (which is a separate PDF). This is a record of the two squads in the game.

Each Infantry Counter has a number in the top left from 1 - 10 for each side.

The steps for creating the two squads are:

1. Create a name for each Infantry Counter - each player can make these up!
2. For each Infantry Counter roll 2 dice to determine their Special Skill.

Some Infantry Counters already have a Special Skill. Re-roll any dice rolls where the result is the same Special Skill.

Dice Roll

- | | |
|----|---|
| 2 | T: toughened - wounded on a 5 not a 4 |
| 3 | F: fit - can move an extra hex |
| 4 | S: shot! can re-roll a single missed shot |
| 5 | D: Determined - can hit on a 3 not 4 whilst advancing |
| 6 | C: Calm under fire - can force the enemy to re-roll any Fire Action's against it. |
| 7 | F: Ferocious - can re-roll one close combat dice |
| 8 | R: Repair - if gun jams roll a dice on a 4 or more ignore jammed token |
| 9 | I: Inspiring - can preroll any dice roll for that activation (such as for combat, firing etc) |
| 10 | M: Medical knowledge - can remove a Wounded counter on a 3+ |
| 11 | B: Brave - When moving any Snap Fire attacks against this Infantry Counter receive a -2 penalty on the to their Hit dice roll |
| 12 | Pick any one you like!!! |

3. Finally fill in the Special Skill section on the Squad Details sheet!

Solitaire Game Rules

This section describes the rules for the Solitaire game. This re-uses some of the key mechanics from the two player game and has some unique mechanics and rules specific to the Solitaire game.

Where the Solitaire rules use the two player game, these rules are duplicated in this section.

In the Solitaire game the player assumes the role of the Allied Airborne and there are unique Solitaire scenarios to play.



The Most Important Solitaire Rule!

Due to the nature of the game mechanics the design of this game is very Solitaire friendly. As the German Infantry Counters only printed one side (and so a proportion are placed blind, face down, to the player) and the Chit Pull activation mechanic are mechanics that lend themselves well to Solitaire play.

Plus there are detailed AI choice making mechanics to help the player in playing out the opposing German forces.

However, there will be instances in the Solitaire game where the player will need to use their judgement and decisions. For some players, playing out both sides to how they imagine those sides would react to the changing battlefield around them is a fun element to the game. For other players the element of playing against the game rules or AI is part of the fun of Solitaire gaming.

These rules try and accommodate both types of players (and of course some players may be both!). However if you find a situation where it is not clear

what the AI Germans should do use your best judgement to making a fun gaming experience!

16.0 Solitaire Game Setup

Follow this process for setting up your Solitaire game, (which is very similar to the two player setup) in order:

1. Firstly place all the Pull Chits into a opaque cup (I like to use a mug!!) as per the Scenario description. For the first scenario of the game this is all twenty (ten for the German and ten for the Allies) Pull Chits.
2. Randomly create the two Infantry Squads (please refer to the Infantry Squad creation section - section 15.0) referring to any special rules in the Scenario Description.
3. Choose a Solitaire Scenario (please refer to Scenario Descriptions PDF - for your first game, or a quick introduction game for any new player we recommend playing Solitaire Introduction Scenario).
4. Place the Infantry Counters on the map as per the special rules in the Scenario Description. Please Note that in some of the Scenarios the German Counters are placed randomly and face down.
5. Place all the Game Tokens, face up, within easy reach.
6. On the Turn Sequence put the Game Turn Counter on Turn 1.



17.0 Solitaire Game Turn Sequence.

The game is played in a number of Turns. In each turn the player randomly picks a Pull Chit from the mug. If that Pull Chit is an Allied Pull Chit then they can activate one Infantry Counter. If that Pull Chit is a Axis Pull Chit then they follow the AI steps for the opposing side. The Game Turn ends when all the Pull Chits have been removed from the cup.

1. Move the Game Turn Counter on to Turn 1 (and for every subsequent Turn move the Game Turn Counter along 1 space).
2. Randomly take one Pull Chit from the cup and the side who the Chit belongs to can activate one Infantry Counter. (If an Allied Infantry Counter is activated refer to the Allied Infantry Counter Activation - Section 17.0. If an AI German Infantry Counter is activated refer to the AI German Activation - Section 25.0).
3. Once all the Pull Chits have been taken from the cup that turn is over.
4. Remove all Snap Fire and Heads Down Tokens from play.
5. Wounded Phase - Roll for all Infantry Counters that have a Wounded Token (refer to the Wounded section - Section 26.0).
6. Place all the Pull Chits back into the cup - with one Pull Chit going into the cup for every one surviving Infantry Counter.
7. Check the Scenario Victory Conditions. If either side has achieved the Victory Conditions the game is over.
8. If the Game Turn Counter is on Last Turn then now the game is over.

Notes:

You must only take ONE Pull Chit from the cup at a time.

Pull Chits must be removed from the cup without looking what the Pull Chit is. Don't peek!!

Special Scenario rules override any of the rules above in the Solitaire Sequence or Notes and are detailed in the Scenario Description.



17.0 Allied Infantry Counter Activation

If the Pull Chit removed from the cup is an Allied Pull Chit then follow these rules:

In activating the Infantry Counter the player can choose from several Actions:

Run
Advance
Fire
Charge
Snap Fire
Heads Down
Clear Jam
Medical Aid

17.1 When activating an Infantry Counter place the Pull Chit and after performing any Actions place the Pull Chit on top of (or under) the Infantry Counter.

17.2 An Infantry Counter can ONLY be activated ONCE per game turn. You cannot give an Infantry Counter more than one Action in a Turn, nor can you give one an Action then pull another Pull Chit for your force and give the same Infantry Counter a new Action.

18.0 Run Action

This represents the Infantry Counter running at full speed across the terrain. The standard Run for a Infantry Counter is 4 Movement Points. This rule works exactly the same as the two player game and is covered below:

18.1 Movement Point Cost

This is measured as a cost to enter the next hex. In this game there are three type of hex:

Clear - this is the most common type of hex and represents general forest undergrowth. This type of Hex costs 1 Movement Point for an Infantry Counter to enter.

Woods - the second most type of hex represents trees, bushes, shrubs etc that offer a substantial amount of cover in all directions. This type of Hex costs 2 Movement Points for an Infantry Counter to enter.

Hedge - this type of hex represents foliage or natural hedging that offers cover but ONLY along one or more sides of the hex (for full rules see the Line of Sight - Section 6.2 and Cover - Section 6.5) This type of Hex costs 1 movement Point to enter unless the Infantry Counter is entering or leaving that hex alongside the edge where foliage exists and then it costs two Movement Points.

In Summary:

Clear Hex	1 Movement Point
Woods Hex	2 Movement Points
Hedge Hex	1 Movement Point or 2 Movement Points if entering alongside foliage edge

18.2 An Infantry Counter does not have to use all its Movement Points - it can use as little as the player wants.

18.3 STACKING

An Infantry Counter cannot end its last Movement Point(s) to enter a hex containing a Friendly Infantry Counter. A hex can only contain one Infantry Counter UNLESS there is close combat as a result of a CHARGE (See CHARGE Activation rule 7.0).

18.4 An Infantry Counter can pass through a friendly Infantry Counter providing it has enough Movement Points to enter the next hex.

18.5 An Infantry Counter CANNOT pass through a hex containing an Enemy Infantry Counter.

18.6 An infantry Counter can end its movement in a hex containing an Enemy Infantry Counter providing it has been issued with a CHARGE Activation Counter (see Charge Activation rules - Section 7.0). This is the only occasion Infantry Counters can stack.

18.7 German Snap Fire AI Solitaire Rule.

If you give an Allied Airborne Infantry Counter a Run Action (or any kind moving Action) that results in that Counter spending Movement Points please consult below:

Is the leaving Hex in Line of Sight of a German Infantry Counter?

is the leaving Hex in range of the above German Infantry Counters?

Does any of those above German Infantry Counters have a Snap Fire counter?

If the answer is YES to ALL three then ONE (or more) of those German Infantry Counters will fire on the moving Allied Infantry Counter.

First determine which German Infantry Counter will fire. If there is only one then its straightforward - the choice is made!! If there are more than one then randomise which one will fire. For example, if there are two then roll a D6 a result of 1-3 and its the Counter on the Left, 4-6 and its the counter on the right.

The exception is if the moving Allied Airborne Infantry Counter is the last activated Infantry

Counter on the Allied side then all German Infantry Counters that have a Snap Fire counter will fire if they can (as in they are in range and have line of sight).

19.0 Solitaire Advance Action

The Advance Action rules works exactly the same as the two player game and is covered below:

The Advance Action is where your Infantry Counter fires from the hip whilst advancing. The movement points is less than normal and the accuracy of the firing is less but does give the player a tactical choice of moving and firing.

19.1 There is a movement point restriction of a 2 point reduction. This means for most Infantry Counters their movement point limit is now 2 points (which will always be enough to move them into the adjacent hex).

19.2 There is also a Firing reduction of -1. Firing is covered in the Fire rules - Section 6.0.

19.3 As with regular Run Action the player doesn't have to move the Infantry Counter and neither does it have to fire.



20.0 Solitaire Fire Action

This Action allows the activated Infantry Counter an aimed shot(or series of shots depending on the weapon that Infantry Counter is armed with) at an enemy Infantry Counter it can see and within range.

Fire works broadly the same as the two player game - and detailed below.

To carry out this Action follow this steps:

1. The player must determine which Infantry Counter is firing and the enemy target.
2. Check the distance between the Infantry Counter and the target and cross referencing that to the firing weapons range.
3. In in range the player must check that the Infantry Counter can see, using the Line of Sight rules, the intended target.
4. If the Infantry Counter has Line of Sight to the target it must roll a "To Hit" dice.
5. Determine any modifiers to the "To Hit" dice and roll the number of dice as indicated by the firing weapon.
6. Check if as a result of the "To Hit" dice the Infantry Counter that fired has resulted in a "Jammed Weapon".
7. If the target has been Hit roll the "To Wound" dice.
8. If the target has been wounded then that target is removed from the game.
9. If the target has been hit but no wounded place a Wounded Counter on the target.

For a video description of Firing Rules there is a Youtube video <https://www.youtube.com/watch?v=dGawZ4nJFWs>

20.1 Range

The first aspect of firing to check is the range from the Infantry Counter to the intended target. To calculate this add the number of hexes between the Infantry Counter and the target (including the hex the target is in).

On the Infantry Counter in the top right of the counter there is the name of the weapon that Infantry Counter is armed with and the first number beneath it is the range of that weapon.

If the range between the Infantry Counter and the target is the same or less than the Weapon Range then the target is in range and can be hit. If the range is greater then the target cannot be hit.

20.2 Line of Sight

To ensue that the activated Infantry Counter can see the intended target a Line of Sight check must be made. This involves drawing an imaginary

straight line from the centre of the firing Infantry Counter to the the centre of the target Infantry Counter.

The Infantry Counter has Line of Sight proving:

The Line of Sight does not intersect a tree hex. Any tree hex between the Infantry Counter and the target blocks Line of Sight.

There is no hedge hex where the Line of Sight intersects the hedge edge, along the middle, and where the intended target is not in that Hedge hex. (Basically a hedge blocks line of sight unless the target is in that hex target).

20.3 To Hit Dice

If the target is in range and there is a clear Line of Sight between the activated Infantry Counter and the intended target then the activating player must roll a "To Hit" dice.

Firstly establish the number of dice to roll. For rifle weapons this is normally 1, for submachine guns this is normally 2 and support weapons 3 or even more.

On the Infantry Counter in the top right of the counter there is the name of the weapon that Infantry Counter is armed with and next to the range, depending on the weapon, there is a secondary, smaller, number for a submachine gun, machine pistol or support weapon. That number represents the number of dice used. If there is no secondary number then the number of dice rolled is once dice.

20.4 To Hit Dice Modifiers

Once you have the number of dice, the next steps are to see if there are any modifiers to the Hit Dice.

The Modifiers are:

Target has a Heads Down Counter - 1

Target is in cover -1

Firer has Advance Counter -1

Firer has Wounded Counter-1

Firer has Snap Fire Counter -1

Target is in adjacent hex +1

20.5 Cover

If the target Infantry Counter is in a Woods hex then they receive a cover bonus by the Firer receiving a -1 penalty. The same applies if the target Infantry Counter is in a Hedge hex where the hedge graphic is on the edge of the hex on the Line of Fire from the attacking Infantry Counter.

Cumulative penalties

In the game the penalties stack so if a target is in woods and the firing Infantry Counter has an Advance Counter then the penalty would be a -2 (-1 for the cover plus the -1 for the Advance Counter).

20.6 Roll to Hit

Once the player has worked out the penalties (if any) and the number of dice rolled then the player must roll the dice needing a 3 or more on a six sided dice to hit. Before rolling the dice apply any penalties. So for example if the target is in cover the firing Infantry Counter would require a 4 or more (normally needs a 3 to hit by with he minus 1 penalty the counter now needs a 3 to hit).

Roll the number of dice for the firing Infantry Counter's weapon apply any of the Modifiers and calculate the number of hits.

Weapons that have more than 1 firing dice can hit the target several times - for example an Infantry Counter with a submachine gun fires 2 dice against a target in open ground and no To Hit modifiers rolls a 5 and a 6 - both these two dice are hits and the target receives 2 hits.

Roll of 6 and the Roll of 1 Rule

A 6 is always a hit, regardless of modifiers or circumstances. Conversely a roll of 1 is always a miss. This represents the incredible good fortune or bad luck of combat.

If the target has been hit place a Wounded counter on the target.

20.7 Check to see if weapons is Jammed

Any dice that the firing Infantry Counter rolls that results in an unmodified roll of a 1 then their weapon is Jammed and has no effect. Place a Jammed counter on that Infantry Counter. Infantry Counters that have a Jammed counter cannot fire, either with a Fire, Snap Shot or Advance Action. Infantry Counters that take part in close combat, that have a Jammed Counter, receive a penalty but can still take part in Close Combat.

20.8 To Wound

Once you have established how many hits the target has received, next is the To Wound dice roll. For every dice that hit the target roll that dice again and a roll of 4 or more on a six sided dice removes that target Infantry Counter from play (remove it from the board).

That Infantry Counter is considered dead or otherwise removed. Remember when filling up the cup with Pull Chits to reduce the pool of Pull Chits

by one for every member of your squad that is removed from play.

If all the dice rolls are unsuccessful the target Infantry Counter still retains the Wounded counter - these represent varying severity of flesh wounds and are used later in the game turn.

21.0 Solitaire Charge Action & Close Combat

The Charge Action enables the player to move one of their Infantry Counters and attack an enemy target in close combat.

The Charge Action and Close Combat works broadly the same as the two player game - and detailed below.

First step is for the attacking player to determine the Infantry Counter that is charging, and declaring the target of the Charge Action.

Second step is movement. The Attacking Infantry Counter receives a +1 to their movement allowance. So for example, as most counters have 4 movement points with a Charge Action the counter now has 5 movement points.

Remember to check each moment before commencing to allow for the opposing Snap Fire Actions as a result of that movement (see German Snap Fire AI Solitaire Rule 18.7).

If the final moment point(s) is spent to enter the same hex as the target. This is the only time that a hex can contain two or more Infantry Counters.

The third step is determine the outcome of the Close Combat. Close Combat in this game is simple and brutal, emulating the vicious and brutal nature of armed men fighting in close quarters.

21.1 Close Combat Dice Roll

Each Infantry Counter rolls one dice per weapon attack dice. For Infantry Counters armed with rifles this would be one dice where as Infantry Counters armed with submachine guns or machine pistols would roll 2 or more dice. The exception to this is support weapons such as the MG42 or Bren Gun - those roll 1 dice as per a rifle.

21.2 Close Combat Modifiers

In addition to the number of dice rolled there are some modifiers:

Charging Infantry Counter +1

Any Infantry Counter with a Wounded Counter -1

Any Infantry Counter with a Jammed Counter -1

Defending Infantry Counter is in cover +1

Defending Infantry has a Heads Down Counter +1

All modifiers are cumulative so an Infantry Counter with a Wounded and Jammed Counter would receive a -2 to their Close Combat Dice Roll.

21.3 Final Calculations & Outcome

Take the highest number from the dice rolls from either Infantry Counter and apply any of the modifiers. The Infantry Counter with the highest number wins and the losing Infantry Counter is removed from play. If both results are the same both Infantry Counters are removed from play!

Remember to reduce the number of Pull Chits as a result of any Infantry Counters being removed from play the next time you put them in the cup.

22.0 Solitaire Heads Down Action

This Action represents the soldier diving for covering and making the best they can in the natural cover they have.

The Player simply places a Heads Down Counter on top of the chosen Infantry Counter, that is going Heads Down. As it does not require any movement cost the opposing side cannot Snap Fire against it.

23.0 Solitaire Clear Jam Action

This Action enables a Infantry Counter to try and attempt to clear a Jammed weapon and remove any Jammed Counter on that Infantry Counter.

The Solitaire Clear Jam Action works exactly the same as the two player game.

To attempt this roll a D6 and any roll of a 4 or more is successful. There are no modifiers. If successful the Jammed counter is removed.

24.0 Medical Aid Action

This is a special Action that works very similar to the Charge! Action but instead of moving and entering an enemy Target to engage in close combat the player can move a friendly Infantry Counter to an Infantry Counter that has a Wounded Counter attached to it and attempt some simple field medical assistance to get the Wounded Infantry Counter back into the fight!

To attempt this roll a D6 and any roll of a 4 or more is successful. There are no modifiers. If successful the Wounded counter is removed.

25.0 AI German Activation

If you take a German Pull Chit from the cup then you must follow the rules for the rules for the German AI.

Firstly determine which German Infantry Counter to activate and issue an Action. To do this follow these steps in priority order:

- 1) Allied Infantry Counter in open ground, in range of fire and line of sight from a German Infantry Counter.
- 2) Allied Infantry Counter that has a Wounded counter and in range of fire, and within Charge! range of German Infantry Counter that has a MP40.
- 3) Allied Infantry Counter in cover with a Jammed or Wounded counter that is within range of fire from any German Infantry Counter.
- 4) Any Infantry Counter that is within range and line of sight from any German Infantry Counter not covered by priority 1 through 3.
- 5) Any Infantry Counter that is within range but not within line of sight from any German Infantry Counter.
- 6) Any German Infantry Counter that has a Jammed Counter.
- 7) Any German Infantry Counter that has a Wounded Counter.
- 8) Any German Infantry Counter that has no line of sight or range to any Allied Airborne Counter.
In the event of a tie where there are several German Infantry Counters that can be activated either use your own judgement (it is your game!) or use a D6 (or other means) to randomise which German Infantry Counter to activate.

Once you have established which German Counter to activate follow this guide.

Priority One German Counter will fire using the Fire Action. Roll to hit and wound as normal.

Priority Two German Counter will Charge! to the target. However if there are Allied Infantry Counters with a Snap Fire Action and where by moving the German Infantry Unit must roll a dice to determine if it will Charge or not. On a roll of a 1 - 4 the German Infantry Counter will not charge - instead it will fire using the Fire Action as per the normal Fire

rules. On a roll of 5 or 6 the German Infantry Counter will charge and to hell with the consequences!

Priority Three German Infantry Counter will fire with a Fire Action. Roll to hit and wound as normal.

Priority Four - this is a catch all for allowing any German Infantry Counters who are within range and line of sight of any Allied Infantry Counter not covered by the Priorities one, two and three. The German Infantry Counter will fire using the Fire Action and use the Fire Action rules as normal.

Priority Five - this is as Priority Four but where the German Infantry Counter does not have Line of Sight. Instead with this Counter place a Snap Fire Counter on the German Infantry Counter.

Priority Six - any German Infantry Counter that cannot fire due to having a Jammed counter will try and repair the jam by using a Clear Jam Action.

Priority Seven - any German Infantry Counter that has not been used yet in the Turn and has a Wounded Counter will attempt some field dressing first aid and use the First Aid Action.

Priority Eight - any German Infantry Counter left will Run or Advance towards the nearest enemy Counter or will sit tight in cover.

Roll a dice - on a 1- 4 the German Infantry Counter will move (either in Advance or Run as described next) towards the nearest enemy Counter and 5 - 6 the German Infantry Counter will go Heads Down. If the German Infantry Counter can move and as a result of that move would be able to Fire on an enemy counter (so would have line of sight and within range) then the German Infantry Counter will Advance. If not then it will Run.

26.0 Wounded Phase

At the end of the Turn both players must roll for any Infantry Counters that have a Wounded Counter. Each player takes it in turn to roll a single six sided dice for each Wounded Counter. The results are:

- 1 The Infantry Counter has suffered from its wounds and removed from play.
- 2- 4 The Infantry Counter remains Wounded and retains the Wounded Counter.
- 5-6 The Infantry Counter has regained full combat effectiveness and the Wounded Counter is removed.

26.1 Multiple Wounded Counter Roll

The player must roll for every Wounded Counter so if an Infantry Counter has two Wounded Counters then the player would need to roll two dice in the Wounded phase.

Resources

Youtube

As mentioned I have created a series of video descriptions and tutorials for both the two player game and Solitaire. Either search for "Until the Bitter End" or copy and paste this link

<https://www.youtube.com/channel/UCjV24vVcvBwmvJUEz0zXE5g>

Boardgamegeek

boardgamegeek.com is an excellent resource, forums for the game (where I will be happy to answer questions!) etc and the game can be found:

<https://boardgamegeek.com/boardgame/256021/until-bitter-end>

Facebook

I run a Facebook page where I post all my WW2 art, game related and general WW2 history information and can be found:

<https://www.facebook.com/worldwarllart/>

Many thanks for everyone's support!!

Matt

Version Notes:**Version 1.1**

Solitaire Game - I've added the rule around allowing the German AI to Advance in Priority Eight Solitaire and Two-Player Game - clarified the rules in the Medical Aid Action.

Solitaire and Two-Player Game - Changed the Calm Under Fire rule in the Infantry Squad Creation.

Plus general phrasing and clean up.

Version 1.2

Infantry Squad Creation - modified the M: Medical knowledge Special Skill so skill can now stabilise a 3+.

Infantry Squad Creation - Improved clarity of wording to the Brave Special Skill.

Version 1.3

Cosmetic and tidying update.